

$$10 = 18 + 4x_4 \Rightarrow -8 = 4x_4 \Rightarrow \boxed{x_4 = -2\text{m}}$$

$$y_{cm} = \frac{m_1' \times 3 + m_2 \times y_4}{m_1' + m_2}$$

$$1 = \frac{6 \times 3 + 4 \times y_4}{6 + 4} \Rightarrow \dots \Rightarrow \boxed{y_4 = -2\text{m}}$$

Similarly $\boxed{z_4 = -2\text{m}}$

So, Position of the 4 kg object $(x_4, y_4, z_4) = (-2, -2, -2)\text{m}$